extremely pure and can be provided in non-limiting high yields suitable for diagnostic and high-throughput screening assays. --

In the Claims:

Please amend Claim 28 as follows:

-- 28. [Amended] A method of producing a cross-over protein **that contains at least one peptide segment whose sequence is derived from one parent protein and at least one peptide segment whose sequence is derived from a second parent protein**, said method comprising:

ligating under chemoselective chemical ligation conditions (i) at least one N-terminal peptide segment comprising a functional protein module derived from [a] **said** first parent protein, and (ii) at least one C-terminal peptide segment comprising a functional protein module derived from [a] **said** second parent protein having an amino acid sequence that is different from said first parent protein, wherein said N-terminal peptide segment and said C-terminal peptide segment comprise compatible reactive groups capable of chemoselective chemical ligation **to one another**, whereby a covalent bond is formed between said **compatible reactive groups of said** N-terminal peptide segment and said C-terminal peptide segment so as to produce a chemical ligation product comprising a cross-over protein **having a C-terminus and an N-terminus**. --

Please amend Claim 30 as follows:

-- 30. The method of claim 28, wherein [said] **the first and second** parent protein molecules **from whose sequences said N-terminal peptide(s) and said C-terminal peptide(s) are derived belong to** [are of] the same family of protein molecules. --

Please amend Claim 32 as follows:

-- 32. A method of producing a cross-over protein library **whose members contain at least one peptide segment whose sequence is derived from one parent protein and at least one peptide segment whose sequence is derived from a second parent protein**, said method comprising:

ligating under chemoselective reaction conditions a plurality of unique N-terminal peptide segments **each** comprising one or more functional protein modules derived from **said** first parent protein and a plurality of unique C-terminal peptide segments **each** comprising one or more functional protein modules derived from a second parent protein having an amino acid sequence that is different from said first parent protein, wherein said N-terminal peptide segments and said C-terminal peptide segments comprise compatible reactive groups capable of chemoselective chemical ligation **to one another**, whereby a covalent bond is formed between said **compatible reactive groups of said** N-terminal peptide segments and said C-terminal peptide segments so as to produce a plurality of chemical ligation products comprising a plurality of unique cross-over proteins **each having a C-terminus and an N-terminus**. –

Please amend Claim 35 as follows:

--~~30~~ 35. The method of claim 32, wherein [said] **the first and second** parent protein molecules **from whose sequences said N-terminal peptide(s) and said C-terminal peptide(s) are derived belong to** [are of] the same family of protein molecules. --

In claim 36, line 4, please replace the word "thaizolidine" with the word -- thiazolidine --.